

Claims

- 1 1. Method for configuring a radio uplink (136) from user equipment (160) to
2 a network element (132), comprising the steps of:
 - 3 sending an information element having a cell specific parameter, a
 - 4 radio link specific parameter, or both in one or more messages on an
 - 5 interface (133, 134) between the network element and a radio network
 - 6 controller (130) for said configuring the radio uplink,
 - 7 configuring the radio uplink at the network element after signalling
 - 8 between the network element and the user equipment, and
 - 9 sending a payload packet from the user equipment to the network
 - 10 element over the radio uplink after the uplink is configured at the network
 - 11 element for sending the payload packet to the radio network controller.

- 1 2. The method of claim 1, further comprising the steps of:
 - 2 acknowledging correct reception of the payload packet at the
 - 3 network element on a radio downlink from the network element to the user
 - 4 equipment, and
 - 5 sending the payload packet from the network element to the radio
 - 6 network controller following said correct reception from the user equipment.

- 1 3. The method of claim 1, further comprising the step of sending the
2 information element on an interface (140, 150) between the radio network
3 controller (130) and another radio network controller (100) for relay to
4 another network element (110) for configuring an uplink between the other
5 network element and the user equipment.

- 1 4. A mobile telecommunications system, comprising:
 - 2 a network element (132) and a radio network controller (130)
 - 3 connected by a signalling interface (133, 134) for configuring a radio uplink
 - 4 (136) from a user equipment (160) to the network element (132), the
 - 5 interface for conveying messages having information elements containing
 - 6 parameters characterized in that
 - 7 an information element having a cell specific parameter, a radio link
 - 8 specific parameter, or both is conveyed in one or more messages on the
 - 9 interface (133, 134) between the network element (132) and the radio
 - 10 network controller (130) for said configuring the radio uplink at the network
 - 11 element after signalling between the network element and the user
 - 12 equipment, and that
 - 13 a payload packet is sent from the user equipment to the network
 - 14 element over the radio uplink after the uplink is configured at the network
 - 15 element for sending the payload packet to the radio network controller.
- 1 5. The system of claim 4, further characterized in that reception of the
- 2 payload packet is acknowledged by the network element on a radio
- 3 downlink (135) from the network element to the user equipment, and that
- 4 the payload packet is sent from the network element to the radio
- 5 network controller following reception from the user equipment.
- 1 6. The system of claim 5, further characterized in that the information
- 2 element is sent on an interface (140, 150) between the radio network
- 3 controller (130) and another radio network controller (100) for relay to
- 4 another network element 110.
- 5

1 7. A data structure for at least temporary storage in a computer readable
2 medium, the data structure comprising an information element having a cell
3 specific parameter, a radio link specific parameter, or both for transfer in
4 one or more messages on an interface (133, 134; 120, 122) between a
5 network element (132; 110) and a radio network controller (130; 100) for
6 configuring a radio uplink from a user equipment (160) to the network
7 element (132; 110) wherein said configuring is carried out at the network
8 element for enabling transmission of a payload packet from the user
9 equipment to the network element over the radio uplink and from there to
10 the radio network controller.

1 8. The data structure of claim 7, characterized in that transmission of the
2 payload packet from the user equipment to the network element is followed
3 by acknowledgement of correct reception of the payload packet by the
4 network element on a radio downlink from the network element to the user
5 equipment and transmission of the payload packet from the network
6 element to the radio network controller.

- 1 9. Radio network controller (130) for configuring a radio uplink (136) from
- 2 user equipment (160) to a network element (132), comprising:
 - 3 a first interface (133, 134) for communicating an information element
 - 4 having a cell specific parameter, a radio link specific parameter, or both in
 - 5 one or more messages on the first interface (133, 134) between the
 - 6 network element (132) and the radio network controller (130) for said
 - 7 configuring the radio uplink; and
 - 8 a second interface (140, 150) for communicating the information
 - 9 element having a cell specific parameter, a radio link specific parameter, or
 - 10 both in the one or more messages on the second interface (140, 150)
 - 11 between the radio network controller (130) and a second radio network
 - 12 controller (100) connected (120, 122) to a second network element (110),
 - 13 wherein the information element having a cell specific parameter, a radio
 - 14 link specific parameter, or both in one or more messages is for configuring
 - 15 a second radio uplink (180) between the second network element (110)
 - 16 and the user equipment (160), the first radio network controller (130) for
 - 17 receiving a payload packet from the network element (132) over the first
 - 18 interface (133, 134), the second radio network controller (100) for receiving
 - 19 the payload packet from the second network element (110) after receipt by
 - 20 the second network element (110) from the user equipment over the
 - 21 second radio uplink (180), the second network element (100) for
 - 22 sending the payload packet received from the second network element
 - 23 (110) to the radio network controller (130) following the reception by the
 - 24 second network element from the user equipment (160) for transfer from
 - 25 the second network controller (100) to the first network controller (130).

1 10. Network element (132; 110) for receiving an uplink channel on a radio
2 link (136; 180) from user equipment (160) to the network element,
3 comprising:
4 a non-radio interface (133, 134; 120, 122) for communicating an
5 information element having a cell specific parameter, a radio link specific
6 parameter, or both in one or more messages between the network element
7 and a radio network controller (130; 100) for configuring the uplink channel
8 on the radio link; and
9 a radio interface for communicating signalling relating to said
10 configuring the uplink channel between the network element and the user
11 equipment and for receiving a payload packet from the user equipment to
12 the network element over the radio uplink after the configuring the uplink
13 channel on the radio link is carried out by the network element, wherein the
14 non-radio interface (133, 134; 120, 122) is for conveying the payload
15 packet from the network element to the radio network controller (130; 100)
16 following the reception by the network element (132; 110) from the user
17 equipment (160).

1 11. User equipment (160) for communicating packets on an enhanced
2 uplink from (136, 180) from the user equipment to a network element (132,
3 110), the user equipment having a transmitter (192) and a receiver (190)
4 together connected to an antenna for transmitting and receiving signals
5 over a radio interface between the user equipment and the network
6 element wherein the user equipment also includes a control (194) for
7 processing signalling between the network element and the user equipment
8 for configuring a radio uplink (136) from user equipment (160) to a network
9 element (132), wherein an information element is sent having a cell specific
10 parameter, a radio link specific parameter, or both in one or more
11 messages on an interface (133, 134) between the network element and a
12 radio network controller (130) for the configuring the radio uplink,

13 wherein the radio uplink is configured at the network element, the user
14 equipment, or both, after signalling between the network element and the
15 user equipment, and wherein a payload packet is sent from the user
16 equipment to the network element over the radio uplink after the uplink is
17 configured and then sent from the network element to the radio network
18 controller.

1 12. A data structure for at least temporary storage in a computer readable
2 medium, the data structure comprising an information element having a cell
3 specific parameter, a radio link specific parameter, or both for transfer in
4 one or more messages on an interface (136, 138; 170, 180) between a
5 network element (132; 110) and a user equipment (160) for configuring a
6 radio uplink from the user equipment to the network element (132; 110)
7 wherein said configuring is carried out at the network element, the user
8 equipment, or both, for enabling transmission of a payload packet from the
9 user equipment to the network element over the radio uplink and from there
10 to the radio network controller.

1 13. The data structure of claim 12, characterized in that transmission of the
2 payload packet from the user equipment to the network element is followed
3 by acknowledgement of correct reception of the payload packet by the
4 network element on a radio downlink from the network element to the user
5 equipment and transmission of the payload packet from the network
6 element to the radio network controller.